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AGO D/A ltr dtd 29 Apr 1980

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**DEPARTMENT OF THE ARMY**  
**OFFICE OF THE ADJUTANT GENERAL**  
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (20 Feb 69) FOR OT UT 684338

25 February 1969

**SUBJECT:** Operational Report - Lessons Learned, Headquarters, 169th  
Engineer Battalion, Period Ending 31 October 1968

**SEE DISTRIBUTION**

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.
2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*

KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

1 Incl  
as

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 169th ENGINEER BATTALION  
APO 96491

EGBE-3

10 November 1968

SUBJECT: Operational Report-Lessons Learned (RCSCSFCR-65) For Quarterly  
Period Ending 31 October 1968.

THRU: Commanding Officer  
159th Engineer Group  
APO 96491

Commanding General  
20th Engineer Brigade  
ATTN: AVPI-OPN  
APO 96491

Commanding General  
US Army Construction Agency Vietnam  
ATTN: AVCC-BC  
APO 96491

Commanding General  
United States Army Vietnam  
ATTN: AVAGC-DH  
APO 96475

Commander in Chief  
United States Army Pacific  
ATTN: GPOF-MH  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFORDA)  
Washington, D.C. 20310

SECTION 1, Significant Organization or Unit Activities

1. Command:

a. Unit Employment: The 169th Engineer Battalion is located on Long  
Binh Post, Republic of South Vietnam and is commanded by LTC Raymond J.  
Elnig, who assumed command on 11 July 1968.

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b. Mission: The mission of the 169th Engineer Battalion is to perform engineer construction and provide combat support as directed by the 159th Engineer Group. The construction effort is used in support of both U.S. and Vietnamese forces as well as periodic revolutionary developments projects.

c. Area of Responsibility: The 169th Engineer Battalion has the responsibility for portions of Long Binh, Bien Hoa complex, and Capital Military District in Saigon. Additionally, the battalion has the mission to provide combat support for III Corps areas designated by the 159th Engineer Group.

d. Attachments and Detachments: Currently the 169th Engineer Battalion has six units attached. They are the 43rd Engineer Company (DT), (108 Officers and EM), the 22nd Engineer Detachment (WD) (2EM), 551st Engineer Detachment (WD) (2EM), 38th Engineer Detachment (WD) (2EM) 917th Engineer Detachment (WD) (2EM) and 156th Engineer Detachment (WD) (2EM).

## 2. Personnel, Administration, Morale, and Discipline:

The 169th Engineer Battalion is organized under TO&E 5-1156 and has a total strength of 42 Officers and 975 Enlisted Men. Its major attached unit, the 43d Engineer Company (DT) is organized under TO&E 5-1246. Each Well Drilling detachment is authorized 2 Enlisted Men. The personnel strength of the 169th Engineer Battalion and attached units are as follows:

### a. 31 Aug 1968

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
AUTHORIZED	35	7	975	1017
ASSIGNED	32	8	880	920

### b. 30 Sep 1968

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
AUTHORIZED	35	7	975	1017
ASSIGNED	31	8	858	897

### c. 31 Oct 1968

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
AUTHORIZED	34	8	970	1012
ASSIGNED	21	8	806	845

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d. As of 31 October 1968, the battalion was 83.0% of total strength. Because of the centralized operation for the most part, there have been few problems during this period; however the following MOS shortages have been critical:

(1) 52F Electricians: Electrical work has continued in large quantity. The unit has only 10 of 37 authorized electricians, a critical shortage. There is no electrical school in this area and qualified personnel must come from rotational procedures.

(2) 51K Plumbers: The battalion currently has only 6 of 37 authorized plumbers. This is expected to become more critical as the Long Binh Post water system is brought into unit areas.

(3) 51M Construction Foremen, E-6: This situation has not improved this quarter, as the unit has 10 of 32 authorized E-6 construction foremen. This unit continues to use senior specialists to make up for the shortages; however, this in turn causes a shortage of qualified equipment operators.

(4) 62B Engineer Equipment Repairman: This unit has 16 of 55 authorized Equipment Repairmen. Maintenance is critical in Vietnam. This shortage affects all our equipment.

e. During this period there have been 74 extensions of tours of duty in Vietnam indicating high morale of the unit.

f. The 169th Engineer Battalion receives an average of 50 to 60 R & R leaves per month well distributed to the various R & R centers out of Country. These have been sufficient to enable all those desiring to take R & R to do so. This unit could, however, use additional in-country R & R allocations for the incentive awards program.

g. Efforts to maintain high morale within the unit appear to be successful as extensions remain high and disciplinary problems are few in number. Recreational facilities include the battalion theater where movies are shown six nights a week, a football and softball field, basketball and volleyball courts, and several other athletic facilities. The NCO-EM club, one of the most modern on Long Binh Post, is a popular facility for the men in the battalion and provides regularly scheduled floor shows for entertainment. A new officer's club has recently been completed, Protestant and Catholic chapel services are conducted in the battalion chapel each Sunday with a popular sing-spiration service conducted each Sunday evening. An intercompany flag football league was held within the battalion during this period.

h. Awards: During the reporting period the men of this battalion have received 20 Bronze Stars, 25 Army Commendation Medals, 1 Purple Heart, 15-20th Brigade certificates of achievement, 34-169th Engineer Battalion Certificates of achievement, and letters of appreciation from supervisors and recipients of our constructive effort.

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3. Intelligence and Counterintelligence:

Our main source of intelligence data stems from a daily SITREP from II Field Force in Vietnam and Long Binh Post Bulletin which enables us to pinpoint activity around this area. Security briefings are held each evening at the 159th Engineer Group. Contact with the enemy has consisted of three separate mining incidents damaging three vehicles and injuring two personnel. Mortar rounds were received on a field position damaging seven vehicles. Sniper fire was received by a survey party with negative casualties.

4. Operations and Training:

a. Combat Support Operations: An earthmoving platoon from B Company moved to Phuong Lam for making temporary repairs on QL-20 in order to permit passage of traffic for the remainder of the rainy season. A total of Nine (9) convoys in an 18 day period involving all units of this battalion and 159th Engineer Group hauled rock up QL-20 to keep the road open during the monsoons. A well drilling detachment from A Company was sent to Bao Trai south of Cu Chi where a 60 foot well was drilled. Presently a detachment is at Tay Ninh awaiting to drill a well near Nui Ba Den. Two platoons from C Company worked out of Xuan Loc during the bulk of this reporting period while repairing the Xuan Loc airfield, building a parking apron, and working on several base construction projects in Long Khanh sector.

b. Training: All training of a formal nature has been conducted on Sunday mornings and Tuesday evenings. At these times mandatory DA and USARV subjects, troop information, and commander's lectures are presented. All new arrivals also receive battalion and company level orientation briefings soon after their arrival.

c. Construction Operations:

(1) Projects completed this period:

(a) Group Directive 159-276, USASUPCOM 500 Man Mess Hall. The construction of this standard 500 man mess hall began on 3 July 1968 and was completed on 15 September 1968. The building is 40' x 150' with a 17' x 120' scullery and a 3000 gallon water tower. After placing siding and screening on the walls and corrugated steel on the roof, the appliances were installed. (C Company).

(b) Group Directive 159-448, High Wall Revetment. This project consisted of constructing a 6' high revetment around a generator building for II Field Forces TOC. The revetments were constructed of corrugated metal and metal plate (for a section inside the building itself) and filled with laterite. The project was initiated on 26 September 1968 and completed on 3 October 1968. (C Company).

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SUBJECT: Operational Report - Lessons Learned (RCSC TCR-65) for Quarterly Period Ending 31 October 1968

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(c) Group Directive 159-440, Engineer Support Nui Chau Chan. Repair of a 4" non-potable water line on Nui Chau Chan required an air lift of both men and equipment to the top of this mountain. The project required several sections of water line and couplings to be replaced. (B Company)

(d) Group Directive 159-427, Helipad and Hardstand. This project consisted of constructing a 28,000 square foot helipad area, a 15000 square foot parking hardstand, a 5'6" high wooden fence, a wooden curb, and seven helicopter landing pads at the Free World Compound, Saigon. (B Company).

(e) Group Directive 159-443, PDO Yard Gatos. Two sets of double 8' x 18' steel pipe frame gatos prefabricated by A Company were installed at the Long Binh PDO Yard by B Company. (A & B Company).

(f) Group Directive 159-461, Well Drilling Support. A 60 foot well was drilled at Bao Trai south of Cu Chi and test pumped for 24 hours. The well produces 75 GPM.

(g) Group Directive 159-422, Repair of Xuan Loc Runway. This project consisted of upgrading the existing Xuan Loc runway. The runway was graded, patched, and primed. The upgrade was completed on 27 October 1968. (C Company).

(h) Group MER 159-68-06, 36th Signal Battalion. C Company provided material and technical supervision for the construction of 25 wooden tent floors, four 4 hole latrines, four 6 head showers, and a water tower with a 3000 gallon capacity. The project began on 6 October 1968 and was completed on 13 October 1968. (C Company).

(i) Group Directive 159-423, Tower Extension. A 12 Foot tower extension on an observation tower and a control console and generator stand was constructed. (B Company).

(2) Projects under construction during this period:

(a) Group Directive 159-316D, Protective Walls for Billets. This project consists of revetments around the newly constructed WAC Billets and 38, 20' x 100' BOQ billets on Long Binh Post. The WAC billets revetments have been completed: approximately 76% of the BOQ revetments are now complete. (B Company).

(b) Group MER 159-68-03, 2nd Signal Group MER. Starting on 18 October 1968 material and technical supervision for construction of 18 wooden tent floors, two 6 hole latrines, two 4 hole latrines, two 6 head showers and a 3000 gallon water tower were provided. (C Company).

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(e) Group Directive 159-363, Airfield Upgrading, Xuan Loc. This project consists of constructing a parking apron for C-130 aircraft and placing a sand surface treatment over the parking area and taxiway and DBST over the cargo loading area. Most of the earthwork has been completed this period and the surface treatment will continue next period. (A, B, and C Companies).

(d) Group Directive OSD-68-159-182, Well Drilling at Nui Ba Den. A well drilling team has been sent to drill one well for an artillery support base north of Tay Ninh. (A Company).

(e) Group Task Assignment 159-801, Aircraft Revetments, A total of 1600 linear feet of 12' revetments have been prefabricated at Long Binh and are being erected at Tan Sen Nhut. Requirements are for 2600 Cubic yds of laterite fill. (C Company).

(f) Group Directive 159-68-191, Shower and Latrines. The mission was received to produce as many four hole latrines and six head showers as possible. In three days one platoon prefabricated 15 showers and 15 latrines. (G Company).

(g) Command Directive 07-234-04-T-75, Radio Research Facility. The main building of this project is a 10,080 square foot centrally airconditioned operations building with complete technical and non-technical power distribution systems and a stand-by power system. Also included are two small buildings (100 and 240 square feet), a substation and auxiliary power source, all of which are surrounded by a security fence and lighting system. Work this period included completing the concrete block exterior walls and interior partitions, hanging the ceiling and finishing the interior walls, and installing the electrical power distribution system. (B Company).

(h) Command Directive 07-242-01-T-75, Bien Hoa TOC. A corrugated metal roof was placed over the 30' thick concrete ceiling of this 3800 square foot underground TOC. This structure is designed to withstand direct hit from a 122 mm rocket, delay fuse. The air conditioner must be installed prior to completing the mechanical room roof and the standoff roof. (C & D Companies).

(i) Command Directive 43-269-13-T-75, 50th Medical Company.

This facility for wounded Viet Cong prisoners includes six double gunset huts erected on 3 foot concrete walls. The project also included the construction of four guard towers and security lighting mounted on poles. The project was constructed in three phases, each phase allowing the completion of 2 gunset hut areas. As each phase was completed, the wounded prisoners were moved out of tents into the gunset huts making the next site available for construction. Only individual showers, a result of a change in the directive, remain and they are now being completed. (C Company).

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(j) Command Directives 43-316-12-T-6S and 43-336-10, 506th Field Depot. During this period the 22200 square yard C-10 hardstand was completed and paved. Double Bituminous Surface treatment (DBST) was accomplished on a portion of the C-8 hardstand. The remainder will be completed when the contractor repairs several soft spots in the hardstand. An access road was built to the 32nd Medical Storage pad in C-11. A total of eight sets of concrete headwalls were poured this period. A Standard 500 man mess hall was constructed in the C-3 area and is completed with the exception of the hook up of several appliances which have not arrived.

(k) Command Directive 43-329, II Field Force-TOC. Construction of a 6,650 Square foot concrete building for II Field Force Headquarters commenced 5 June 1968. Concept of construction was initially directed toward total completion prior to occupation but upon completion of the G-3 section, II Field Force Headquarters, realizing the improvement in operations inherent in the new headquarters, elected to occupy the G-3 section immediately. On 20 September 1968, the G-3 section was turned over to II Field Force complete except for air conditioning apparatus which had not yet arrived in-country. Installation of duct-work is complete in this section. At the end of the reporting period, concrete work is complete except for stairways and an 18" roof eap. Initiation of interior work on the G-2 section began 15 October 1968. Occupancy is expected not later than 4 November 1968. The only remaining interior work is the installation of airconditioning. This work is contracted to R&K-ERJ. (D Company).

(l) Command Directive 43-331-15-T-7S, Road Paving Long Binh Post. Under this directive Fremont Street, K Street, and 12th Street at the 506th Field Depot were paved. (A Company).

(m) Command Directive 43-377-01, Grass Seeding USARV Headquarters Hill. The battalion received the task of seeding some 300000 square yards of surface. Of this over 100000 square yards were topsoiled prior to placement of seed and fertilizer. Old rye grass seed had to be used as mulch since straw was not made available. All of the required topsoil was hauled this period and the primary area has been seeded. Maintenance seeding will be required next period over the areas where the seed did not take well.

(n) Command Directive 73-223-01-T-7S, 493 Man Cantonment. This is a self-help project consisting of the construction of nine-two floor tropical building for the 92nd MP Battalion in Saigon. This unit is providing one supervisor and the necessary equipment and materials. Three buildings were completed during this period. (B Company)

(o) Command Directive 73-205-01-T-6A, Cat Lai Base Development. This is a self-help project for the 11th Transportation Battalion at Cat Lai. During this period two buildings were completed. (C Company)

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(p) Command Directive 89-208-01, District Advisors, Long Khanh. This project consists of billets, latrines water storage facilities and septic tanks for advisors in the Long Khanh district. All facilities have been completed with the exception of the facilities at Gia Ray. (C Company)

(q) Command Directive 98-213-LOC, LOC Restoration QL-1. The work on QL-1 has for the period of this report included shoulder work to increase the width of the road sufficiently to enable 24' of asphaltic pavement to be laid. The old asphaltic surface and stone base was ripped up and mixed with laterite to provide a base for the new paving. In some areas, additional stone was added to the base course and the shoulders to increase stability. During this period an attempt was made to increase drainage in low areas alongside the road. Finish work was attempted on the ditches, but was curtailed because of unusually heavy rainfall, which left the ditches too wet to finish work. Upon preparation of the base A Company paved the road. (A & D Company)

(r) Command Directive 98-221-159-LOC, LOC Restoration QL-20. This road is presently being surveyed and designed. Plans call for gentle sloping, flat-bottom ditches and upgrade to MACV Standards. During this period we supported the 18th ARVN Division in opening 14 KM of road made impossible by monsoon rains. (B Company).

(s) During this period the 43d Engineer Company (DT) has logged 187890 miles in moving 36727 tons of material. Approximately 80% of this work has been accomplished in support of road improvement and paving operations. A total of 10907 tons of asphalt were hauled for paving Long Thanh airfield and QL-1. A total of 7000 tons of rock was hauled to Phuong Lam on QL-20 in support of the 18th ARVN Division. The remainder of the hauling involved sand to Xuan Loc, rock to QL-1 and 506th Field Depot, and laterite in support of various civic action projects in the Saigon and Bien Hoa areas. (43d Engineer Company (DT)).

Section 2, Lessons Learned: Commander's Observations, Evaluations, and Recommendations.

a. Personnel: None

b. Operations

(1) Test pumping of wells.

(a) Observation: Recent exploratory well drilling has disclosed that the initial test pumping methods of a new well by conventional airlift pumping methods were time consuming and inefficient.

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(b) Evaluation: After various experimentation the following procedure was adapted: a 1" airline (hooked to a 600 CFM compressor) was lowered through a 2 1/2" pipe to the well bottom. The airline was equipped with an elbow connector on the end thus directing the air back up the pipe carrying an equal volume of water in relation to the pump diameter at the rate of 60 - 125 GPM.

(c) Recommendation: That this method be used to test pump new wells. This is especially recommended for deep well drilling.

(2) Forming Techniques for Concrete Ducts

(a) Observation: Standard type wall forms are inadequate where high accuracy is required in duct width.

(b) Evaluation: This problem was encountered in floor ducts 18" high which were to be covered with steel plate. High accuracy is required to insure proper fitting of the cover plate. Rectangular box forms should be used and opposite walls should be poured concurrently for greater accuracy.

(c) Recommendation: That box forms be used for concrete ducts and that the opposite walls be poured at the same time.

(3) Double Bituminous Surface Treatment

(a) Observation: Previous surface treatments indicated the prime coat bleeding through in a few areas. Observing the priming operations it was noted that the prime coat was not absorbed evenly over the surfaces; in some areas the prime remained on the surface.

(b) Evaluation: The following method was employed where the prime remained on the surface: the application rate of the aggregate was varied over those areas by changing the speed of the gump truck. After the curing period any excess aggregate was swept away.

(c) Recommendation: That additional aggregate be placed on the areas where the prime coat remained on the surface to prevent bleeding through in the future.

(4) Drainage Ditches Along Roads

(a) Observation: During the upgrading of QL-1 it was observed that the V-shaped ditches with their relatively steep sides were difficult to cut with a grader. Also such ditches made it difficult for vehicles to pull off the road in the event of an ambush.

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(b) Evaluation: These problems were overcome by using gentle-sloped flat-bottom ditches where conditions made this possible; that is, flat terrain which is above rice paddy level.

(c) Recommendation: That flat-bottomed ditches be used along highways whenever conditions permit.

### (5) Aircraft Fuel Pods as Water Tanks

(a) Observation: While constructing water tanks by using aircraft fuel pods, the plumbers discovered that by welding a hole in the bottom of the tank and inserting a pipe welded to a steel plate the connecting process would be faster and easier.

(b) Evaluation: The pipe was grooved, inside so that the water line merely had to be screwed into the protruding pipe. The steel that was welded to the pipe was attached to the tank by bolts (See Incl 1). Old tire tubes cut to shape were used as gaskets to prevent leakage.

(c) Recommendation: That this method be utilized for conversion of aircraft fuel pods to water tanks to conserve both time and effort.

### (6) Concrete Joints

(a) Observation: During construction of the concrete walls at the 50th Medical Company, a problem was encountered in the seepage between the concrete pad and the concrete walls. Water was found in the buildings after each hard rain.

(b) Evaluation: The problem was determined to be caused by the crack between the wall and floor. (See Incl 2). To avoid this seepage the length of the concrete pad was decreased by two (2) inches on each side. This allowed for the offset of the concrete walls 2 inches on each side of the pad. (See Incl 2) The offset stemmed the water and no further problems in the area have been encountered.

(c) Recommendation: That straight-line joints between concrete walls and pads be avoided to prevent seepage into the building.

### (7) Filling Fall Revetments

(a) Observation: In the construction of several 12' aircraft revetments it became necessary to devise a method to extend the reach of a front loader (10') so that the revetments could be filled with laterite efficiently.

(b) Evaluation: A 2 1/2 foot ramp was constructed for the front loader from which to operate. The ramp was built so that the work can move it from one location to another as necessary. It was thought that a conveyor might solve the problem but the conveyor was too bulky to make the number of moves necessary for efficient operation.

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(c) Recommendation: That ramps be utilized to extend the reach of a front loader for filling revetments rather than using a conveyor system.

(8) Finishing Large Aggregate Concrete

(a) Observation: Problems were met with surface aggregate while finishing concrete.

(b) Evaluation: After screeding the surface, much aggregate remained, especially when using aggregate larger than  $3/4$  inch, and this impeded finishing operations. The problem was solved with a 12 inch by 30 inch screen "aggregate smasher". This tool was constructed of heavy  $1/4$  inch grid wire screen welded to a  $3/4$  inch pipe frame with vertical handles approximately four feet in length. The tool is used to submerge the aggregate immediately after screeding and finishing operations were speeded considerably.

(c) Recommendation: That similar tools be utilized on large aggregate finishing operations.

c. Training: None

d. Intelligence: None

e. Logistics

(1) Modification for Barnes 65 GPM Centrifugal Water Pump

(a) Observation: During normal operations of the new Barnes military standard 65GPM centrifugal water pump it was found that normal vibrations of the pump in use move the fuel tank sufficiently to sever the  $1/4$  inch copper fuel line.

(b) Evaluation: The following modification was adapted: weld a  $1/2$  inch piece of stock across the pump frame directly under the fuel tank. Weld to this stock a fabricated bracket to which the tank will be clamped. This modification sufficiently stabilizes the fuel tank, eliminating fuel line breakage.

(c) Recommendation: That the Barnes 65 GPM pumps be modified as above.

f. Organization: None

g. Other: None

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RAYMOND J. EINEIGE  
LTC, CE  
Commanding

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AUBJ-CS (10 Nov 68) 1st Ind

SUBJECT: Operational Report - Lessons Learned, RAS CONCL-6(1) for  
Quarterly Period Ending 31 October 1968


DA, HEADQUARTERS, 20th Engineer Brigade, APO 96491 12 DEC 1968

TO: Commanding General, United States Army Vietnam,  
ATTN: AVH-N-10, APO 96375

1. Submitted in accordance with USAF Regulation 525-15, dated 13 April 1968.
2. Subject report for the 169th Engineer Battalion (Construction) has been reviewed and is considered adequate with the following modification:

Section 1, paragraph 2d (3): LOS should read 51H and not 51M.

FOR THE COMMANDER:

  
RICHARD E. TAYLOR  
1LT, AGC  
Assistant Adjutant



AVHGC-DST (10 Nov 68) 2d Ind  
SUBJECT: Operational Report-Lessons Learned RCSCSFOR-65) For  
Quarterly Period Ending 31 October 1968.

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 12 JAN 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1968 from Headquarters, 169th Engineer Battalion.

2. Reference item concerning concrete joints, page 10, paragraph (6): Concur. Additional methods can be utilized to preclude water seepage through concrete joints. Sheet metal can be half-imbedded in the slab, after the slab is poured, at the mid-point of the wall. When the wall is poured around the waterstop, an effective water barrier is left in place. Another method of preventing water seepage is by imbedding 2" x or 4" x timber in the floor slab on the center line of the wall. The timber is removed prior to pouring the wall and will form a "keyway" which will also prevent water seepage.

FOR THE COMMANDER:



F. S. TAYLOR, JR.

Major, AGC

Asst Adjutant General

Cy furn:  
HQ 20th Engr Bde  
HQ 169th Engr Bn

GPOP-DT (10 Nov 68) 3d Ind

SUBJECT: Operational Report of HQ, 169th Engr Bn for Period Ending  
31 October 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 30 JAN 1969

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

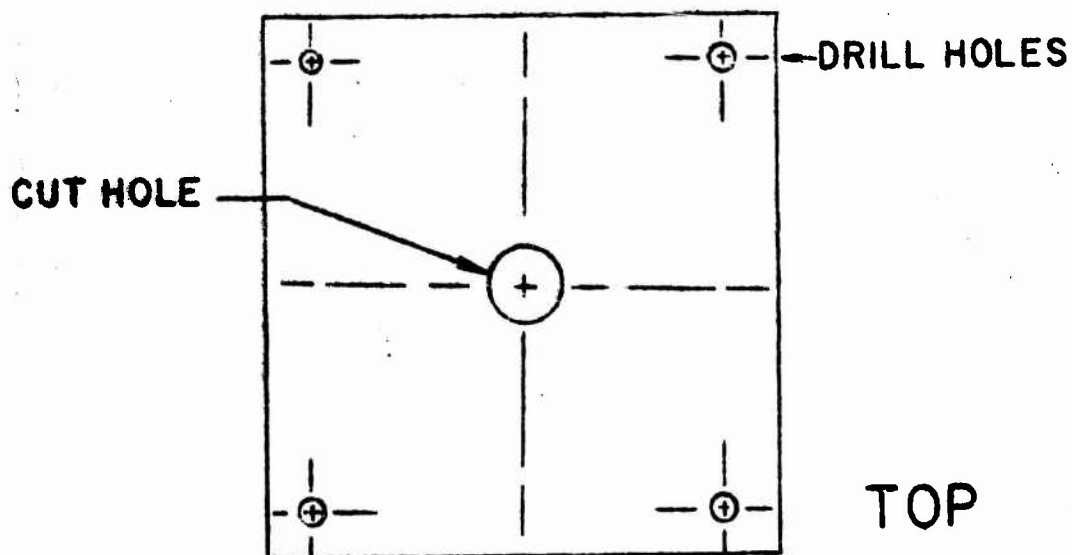
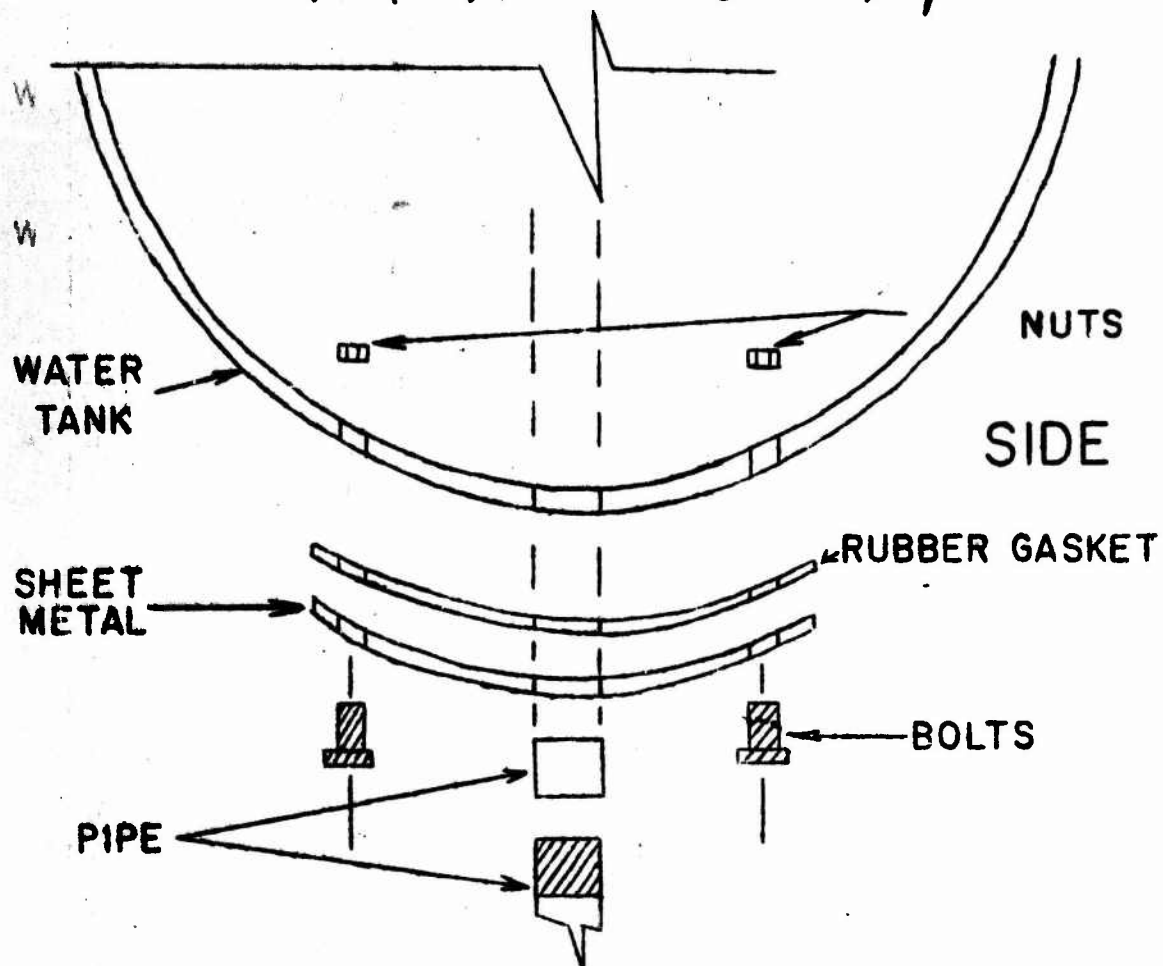
This headquarters has evaluated subject report and forwarding indorse-  
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



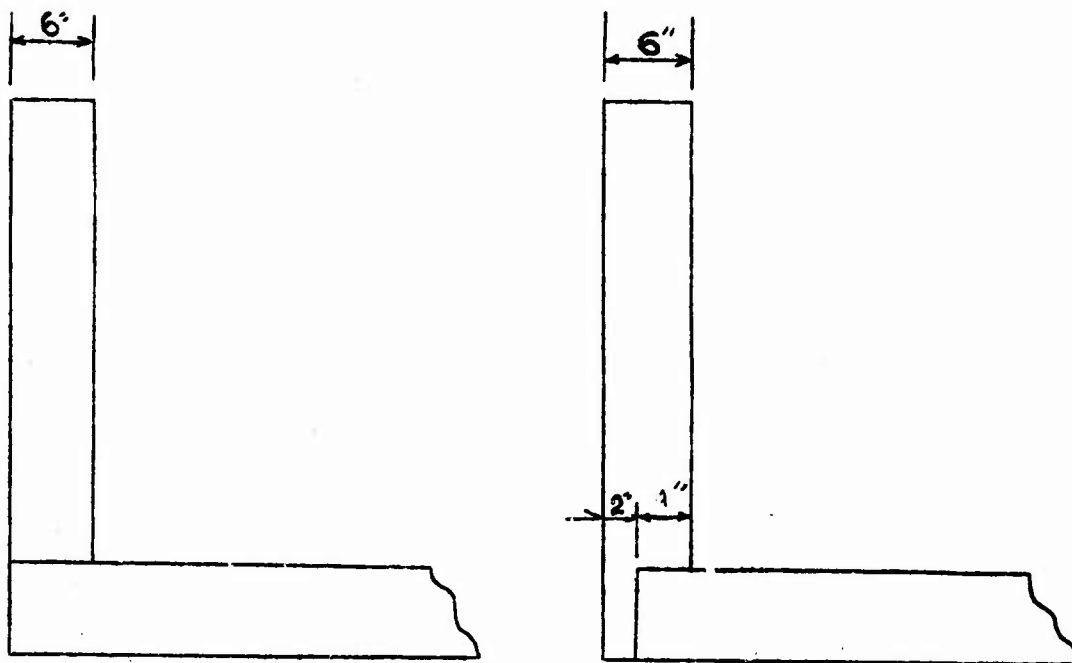
C. L. SHORTT  
CPT, AGC  
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